

JOTTINGS FROM THE BIOLOGICAL LABORATORY OF
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No. 17. THREE ZOOLOGICAL NOVELTIES.

I. The occurrence of a second species of *Phoronis* in Port Jackson.

Phoronis australis, shortly characterised by me some years ago* and more recently described in detail by Benham,† differs widely from all the known European species, not only in its relatively gigantic size (two and a half to five inches), but also in the form of the lophophore and the arrangement of the tentacles. In these respects it approaches a species obtained by the "Challenger" Expedition to the south of the Philippines, and described by McIntosh‡ in the "Reports" under the name of *Phoronis Buskii*. *Phoronis australis* has only been found in one part of Port Jackson—far up opposite the promontory of Ball's Head, in a depth of about 12 fathoms. Its mode of occurrence is extremely remarkable, and, as both Benham and Cori§ have misunderstood my statements|| on the subject, it may be well to repeat them here.

Phoronis australis occurs in communities of twenty or thirty in spaces in the substance of the wall of the tube inhabited and formed by a species of *Cerianthus*. Each worm has a tube of its

* 'P.L.S.N.S.W.' Vol. vii. (1882).

† 'Quart. Journ. Micro. Sci.' Vol. xxx. (1889).

‡ "Zoology," Vol. xxvii. (1888).

§ 'Zeitschr. f. wiss. Zool.' li. Bd. (1891).

|| 'P.L.S.N.S.W.' Vol. ix. p. 1019 (1884).

own, very delicate and transparent, made up of several layers—the mouth opening on the outer surface of the tube of the *Cerianthus*. The *Cerianthus* tubes sometimes come up empty, as we should naturally expect—the anemone having dropped out; but a sufficient number of occupied tubes are found to show that under ordinary circumstances a living *Cerianthus* occupies the interior of the tube, and a community of *Phoronés* live in its wall. This species of *Phoronis* is never found anywhere else; and the species of *Cerianthus* is very rarely found without the *Phoronés*.

I had long since observed two kinds of *Actinotrocha* on the surface of Port Jackson, differing considerably not only in size but in other respects; but the second adult form was only found recently. It was dredged some weeks ago in considerable abundance in the same locality as that inhabited by the large species, growing thickly over empty mussel shells. This second species is no larger than the European kinds, being only about a half to three-quarters of an inch in length. The tubes are membranaceous, tough and flexible, almost hyaline, closely twisted together. On a comparison with the descriptions of the European species I can find hardly any point of any importance to distinguish the Port Jackson form from *P. psammophila* of Cori from Messina; the number of tentacles is greater (about 100), and there are no sand-grains affixed to the tubes; but these are perhaps not constant differences.

II. An Alloiocœle Turbellarian inhabiting the underground waters of Canterbury, New Zealand.

The Alloiocœle Turbellaria hitherto known are all, with only two exceptions, inhabitants of the sea. The exceptions are *Plagiostoma Lemani*, Forel et Duplessis, and *Monotus mesopharynx*, Diesing—the former found at depths of 2 to 300 metres in various of the Swiss lakes, the latter—the position of which is, however, very doubtful—at the Cape of Good Hope.* The occurrence, therefore, of a fresh-water representative of this group in New Zealand is of considerable interest.

(1) Von Graff, "Monographie der Turbellarien," I. Rhabdocœlida.